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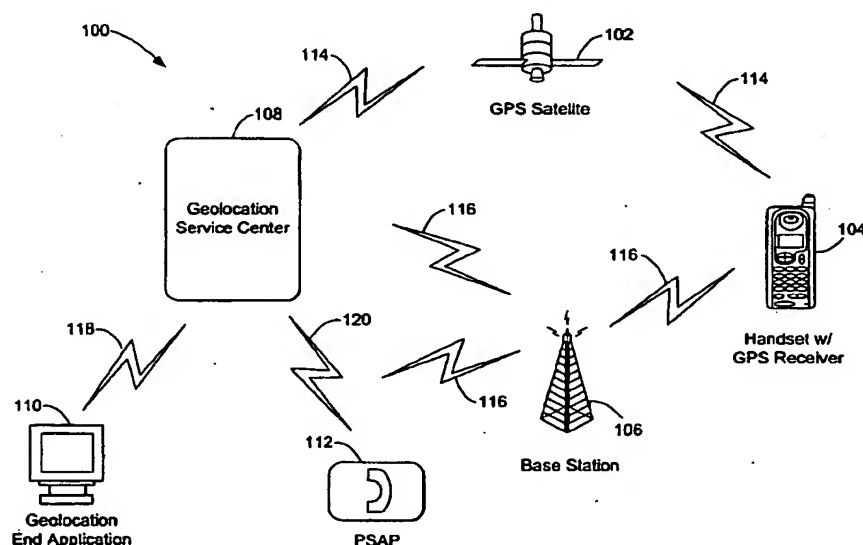
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(54) Title: **MULTI-MODE GLOBAL POSITIONING SYSTEM FOR USE WITH WIRELESS NETWORKS**



(57) Abstract: The present invention discloses a GPS system (100) that can operate in different modes depending on the network facilities and bandwidth available, the GPS information (114) that can be acquired, or user or system requirements. The modes comprise standalone mode, where a mobile communications device (104) computes the position of the device, an autonomous mode, where the mobile communications device (104) transmits the computed position to a server (108), application (110), or PSAP (112) in a communications network, a network aided mode, where the network aids the mobile communications device (104) in determining the position of the device, a network based mode, and other modes.



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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCI Gazette.

AMENDED CLAIMS

[received by the International Bureau on 7 February 2002 (07.02.02);
original claims 1 and 6-20 replaced by amended claims 1 and 6-19;
remaining claims unchanged (4 pages)]

1. A geolocation system, comprising:
a geolocation server, wherein the geolocation server receives at least one signal
from at least one GPS satellite; and
5 a wireless communications device, comprising a GPS receiver section, wherein
the GPS receiver can be selectively switched between a standalone mode and at least one
other mode for determining a geolocation of the wireless communications device,
wherein the at least one other mode is selected from a group comprising an autonomous
mode, a network aided mode, and a network centric mode, and wherein the selective
10 switching occurs substantially simultaneously with the determination of the geolocation
of the wireless communications device, and the wireless communications device can
selectively send the determined geolocation of the wireless communications device to the
geolocation server.
- 15 2. The geolocation system of claim 1, wherein the selective switching of the
GPS receiver is performed automatically by the wireless communications device.
3. The geolocation system of claim 1, wherein the selective switching of the
GPS receiver is performed manually at the wireless communications device.
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4. The geolocation system of claim 1, wherein the selective sending of the
determined geolocation of the wireless communications device is performed
automatically by the wireless communications device.
- 25 5. The geolocation system of claim 1, wherein the selective sending of the
determined geolocation of the wireless communications device is performed manually at
the wireless communications device.

6. The geolocation system of claim 1, wherein the GPS receiver switches between the standalone mode and the at least one other mode when a predetermined event occurs.
- 5 7. The geolocation system of claim 6, wherein the predetermined event is manually selected by a user.
8. The geolocation system of claim 6, wherein the predetermined event is initial acquisition of at least one GPS satellite signal.
- 10 9. The geolocation system of claim 8, wherein the selective switching of the GPS receiver switches the receiver from the at least one other mode to standalone mode.
10. The geolocation system of claim 9, wherein the at least one other mode is
15 the network aided mode.
11. The geolocation system of claim 10, wherein the at least one other mode further comprises a reverse aiding mode.
- 20 12. The geolocation system of claim 11, wherein the wireless communications device can receive information from a second source.
13. The geolocation system of claim 12, wherein the second source of information is selected from a group comprising a bluetooth network, a Specialized
25 Mobile Radio network, a Personal Communication System (PCS) network, a wireless Local Area Network, an infrared network, a paging network, a two-way paging network, or an FM broadcast network.

14. The geolocation system of claim 13, wherein the geolocation of the wireless communication device is determined using GPS satellite signals and the second source of information.

5 15. The geolocation system of claim 6, wherein the wireless communications device selectively displays the determined geolocation of the wireless communications device.

10 16. A method for determining the geoposition of a mobile device, comprising:
receiving at least one signal from at least one GPS satellite at the mobile device,
wherein the mobile device can be selectively switched into a mode selected from a group comprising a standalone mode and at least one other mode, wherein the at least one other mode is selected from a group comprising an autonomous mode, a network aided mode, and a network centric mode;
15 determining the geolocation of the mobile device wherein the geolocation is determined using the selected mode at substantially the same time as switching into the selected mode; and
selectively sending the determined geolocation of the mobile device to a geolocation server via a wireless network.

20 17. The method of claim 16, wherein the determining of the geolocation is performed by the mobile device.

25 18. The method of claim 17, wherein the selective sending of the geolocation is performed by the mobile device, and the geolocation is sent from the mobile device to the geolocation server.

19. A wireless communications device, comprising:
- a call processing section for communicating with a wireless communications network; and
 - a GPS receiver section, wherein the GPS receiver section can be selectively
- 5 switched between a standalone mode and at least one other mode for determining a geolocation of the wireless communications device, wherein the at least one other mode is selected from a group comprising an autonomous mode, a network aided mode, and a network centric mode, and wherein the selective switching occurs substantially
- 10 simultaneously with the determination of the geolocation of the wireless communications device, and the wireless communications device can selectively send the determined geolocation of the wireless communications device to the call processing section for transmission over the wireless communications network.